

Figure 1

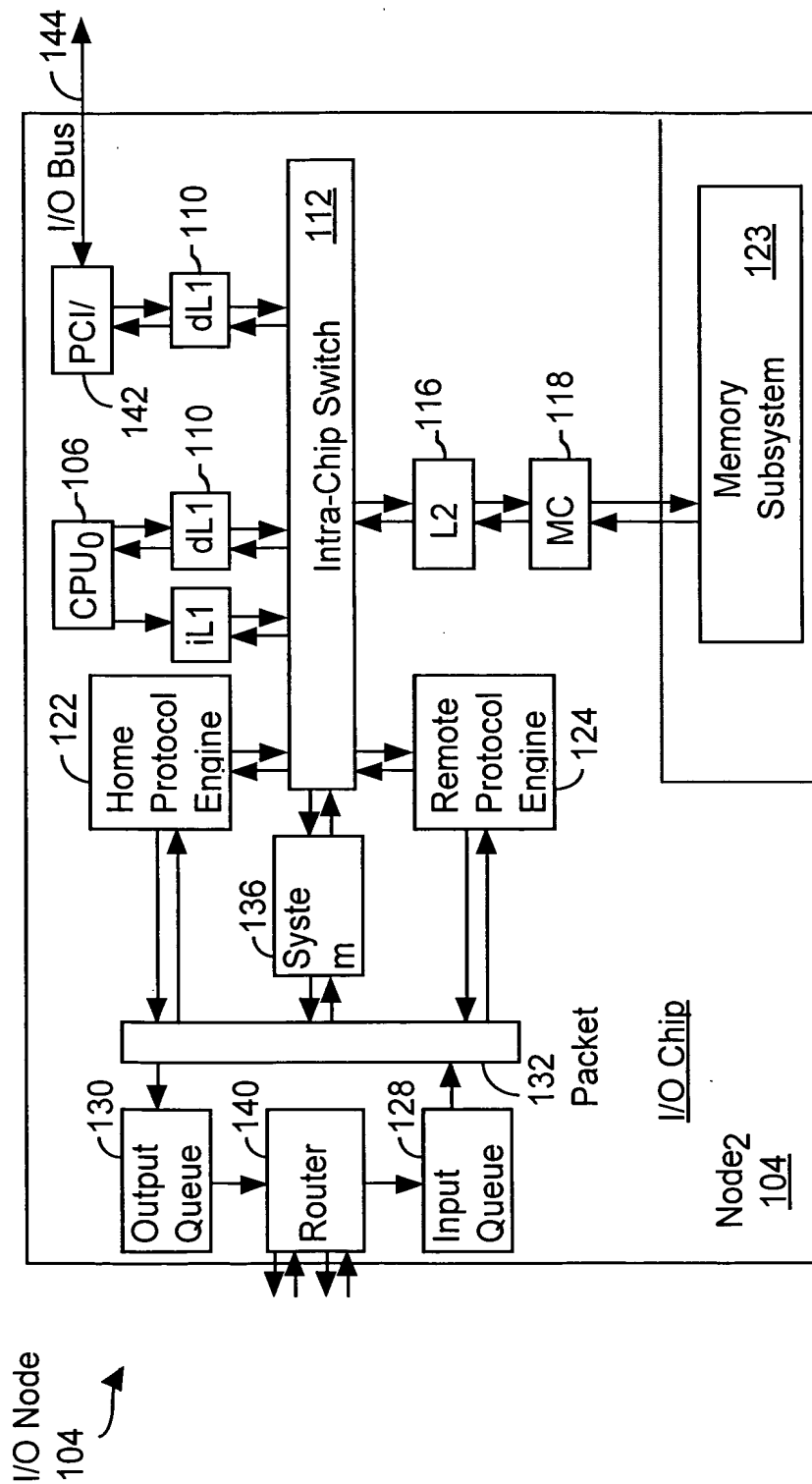


Figure 2

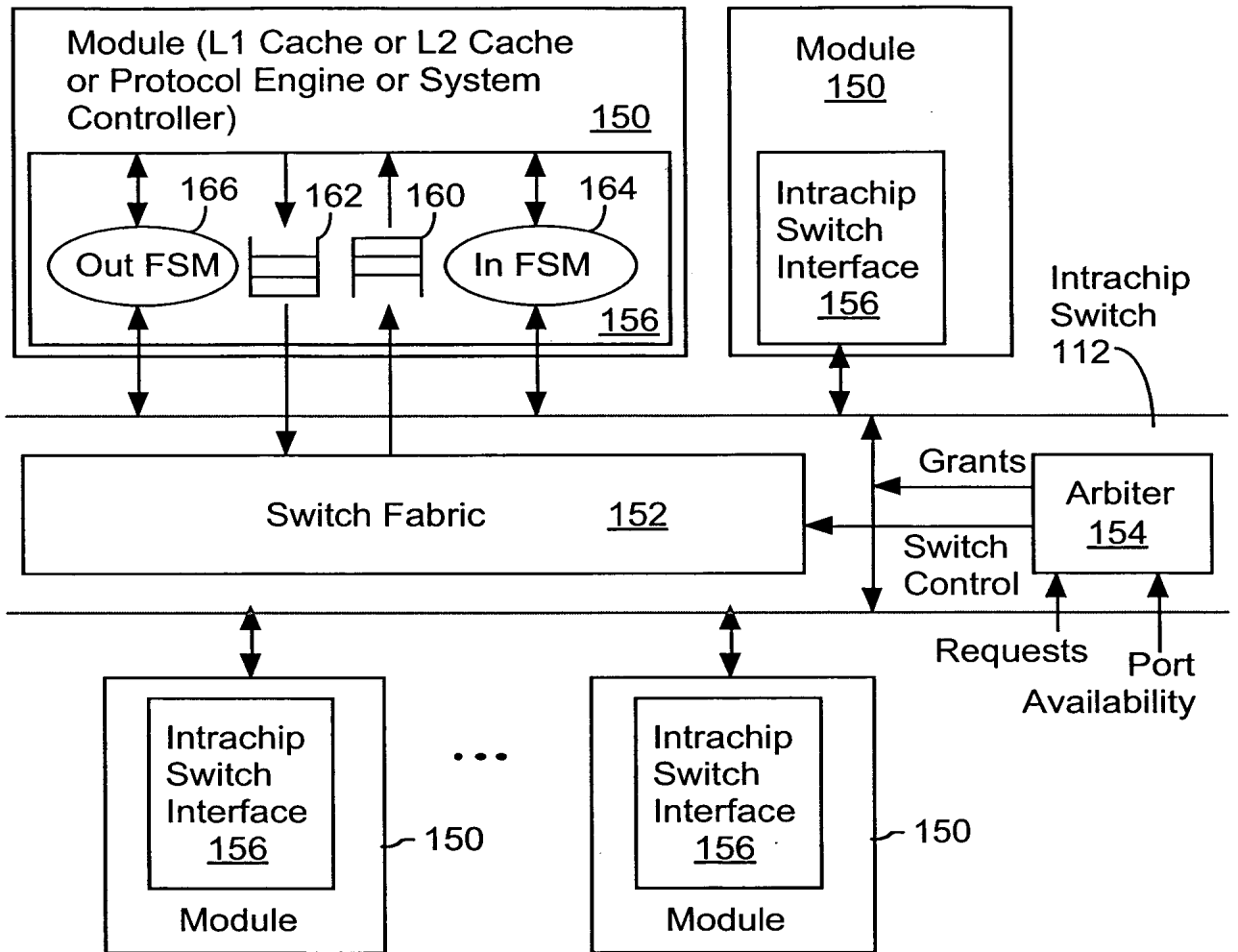
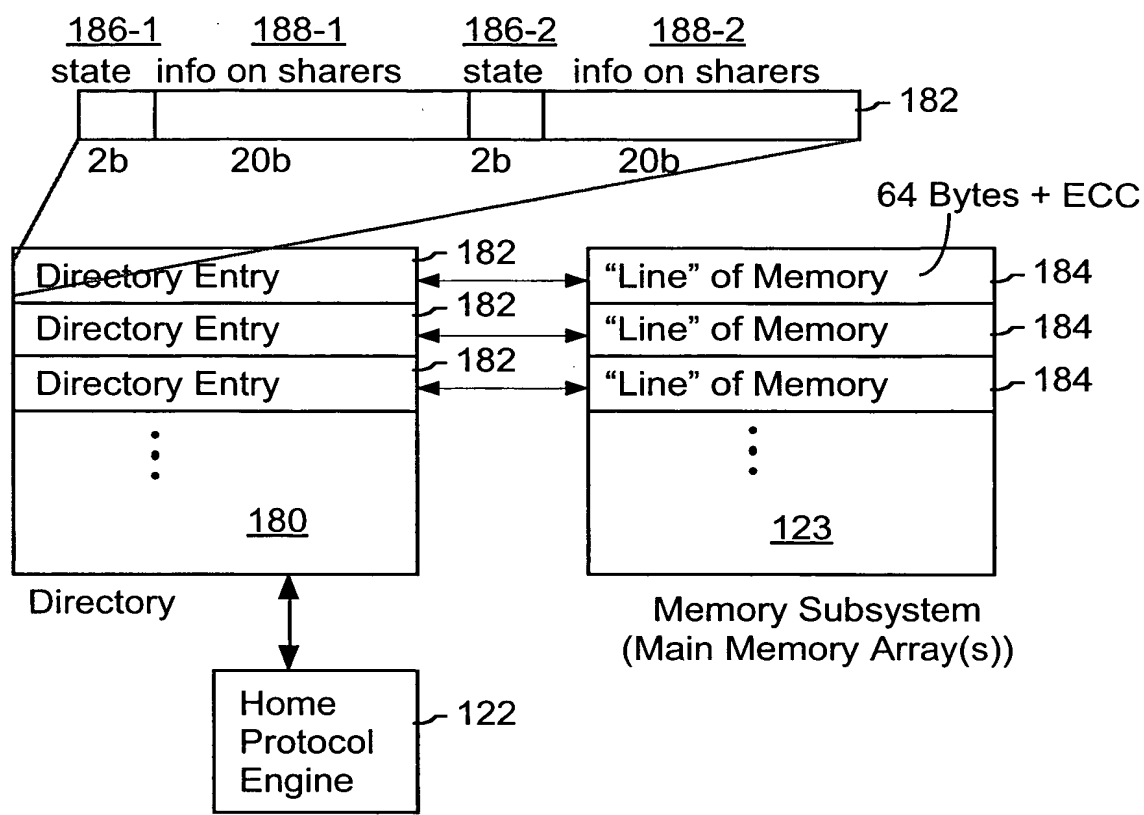


Figure 3

2004-2035-010702



Directory State	Description
invalid	no remote copies
exclusive	exclusive remote copy
shared	one or more shared remote copies (limited pointer)
shared-cv	one or more shared remote copies (coarse pointer)

Node to Bit and Bit to Node AssignmentTable
(for sharer information field 188, coarse vector format)

189

A diagram showing a 2D array structure with 40 columns and 2 rows. The columns are indexed 0 to 39, with ellipses between 5 and 35. The rows are indexed 0 and 1. Row 0 contains elements [0], 1, 2, 3, 4, ..., ..., 34, 35, 36, 37, 38, 39. Row 1 contains elements 40, 41, 42, 43, ..., ..., 73, 74, 75, 76, ..., . An arrow points from the number 189 to the element at row 0, column 2.

	0	1	2	3	4	5	35	36	37	38	39
0	[0]	1	2	3	4	34	35	36	37	38	39
1	40	41	42	43	73	74	75	76	...		

Figure 4

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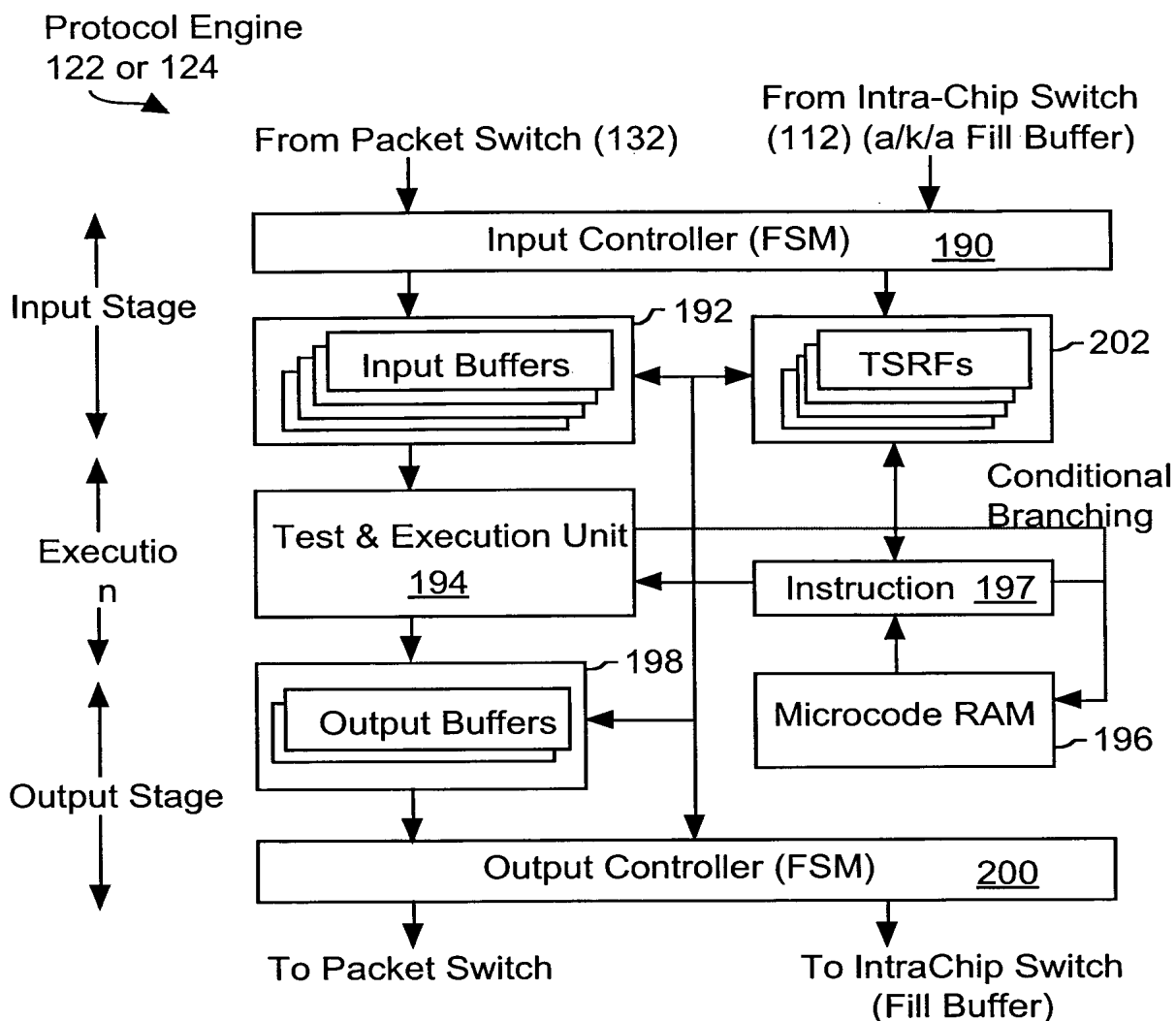
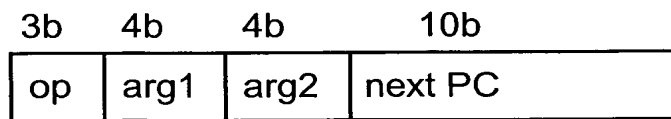


Figure 5



Microcode Instruction Format

Figure 6A

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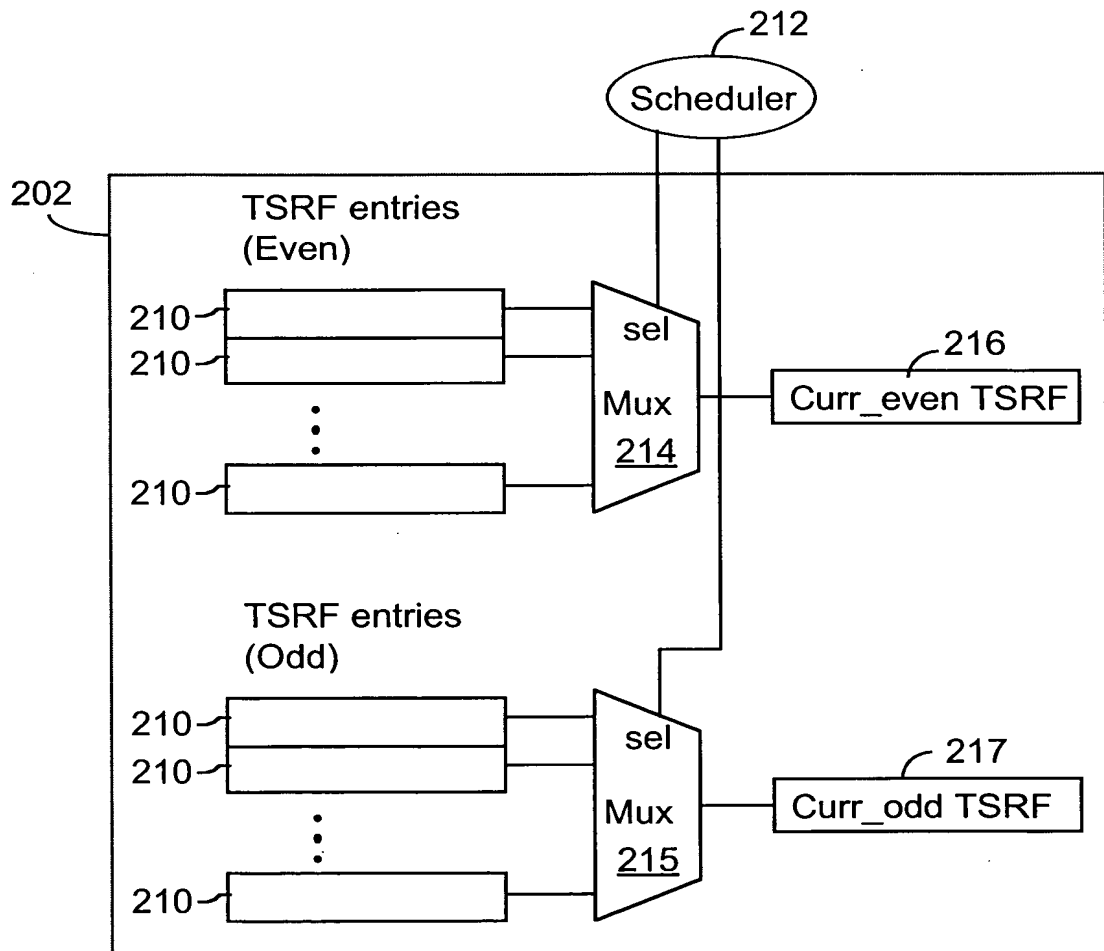


Figure 6B

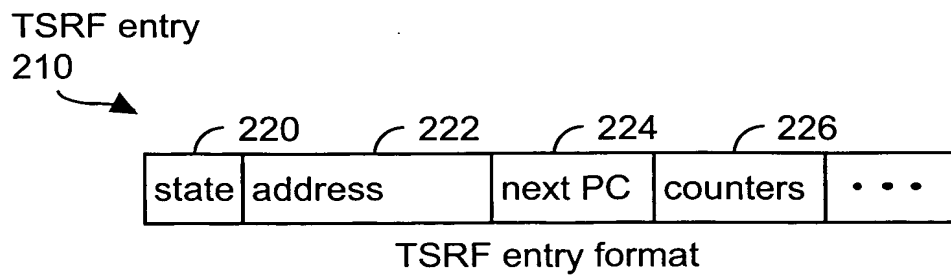


Figure 6C

	Even Cycle	Odd Cycle	Even Cycle	Odd Cycle
Execute	Even Tx	Odd Tx	Even Tx	Odd Tx
µCode Read	Odd Tx Instr	Even Tx Instr	Odd Tx Instr	Even Tx Instr
Schedule	Next Even	Next Odd Tx	Next Even	Next Odd Tx
TSRF Read	Odd TSRF	Even TSRF	Odd TSRF	Even TSRF

Incorporate condition codes into determination of next PC for µCode Read

Figure 7A

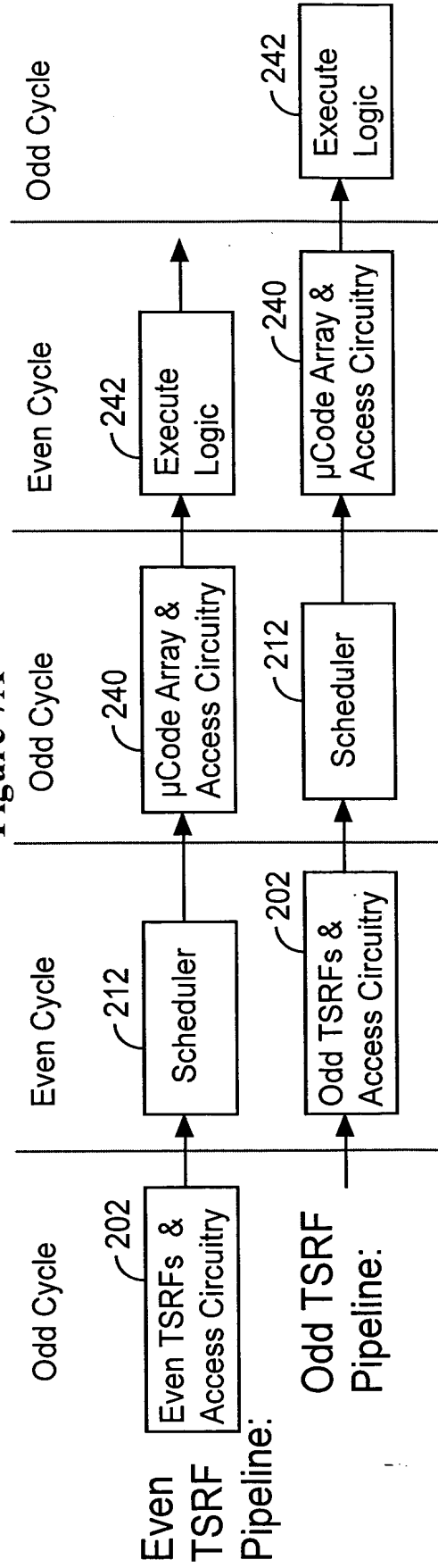


Figure 7B

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202010 SE024001

TSRF State Transitions

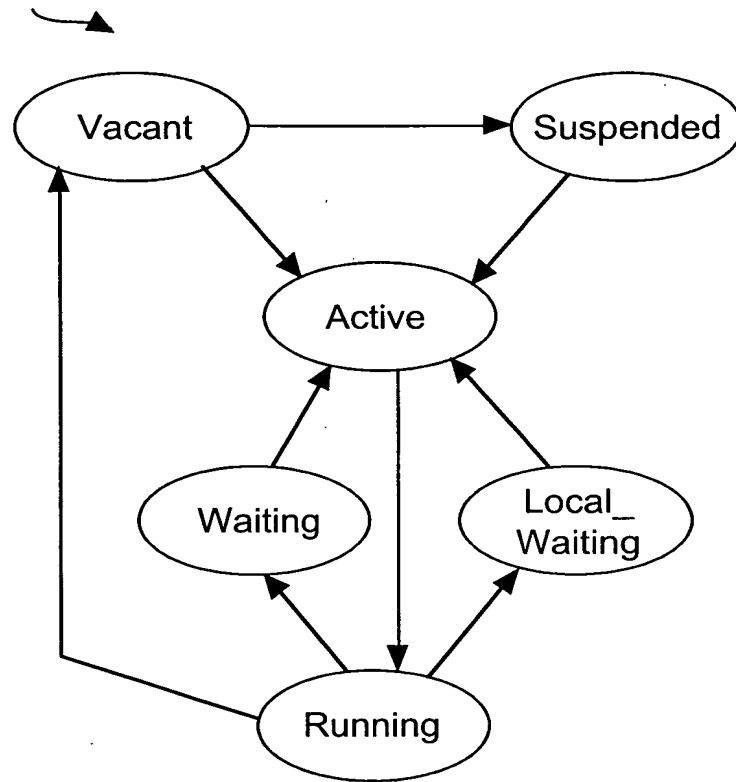


Figure 7C

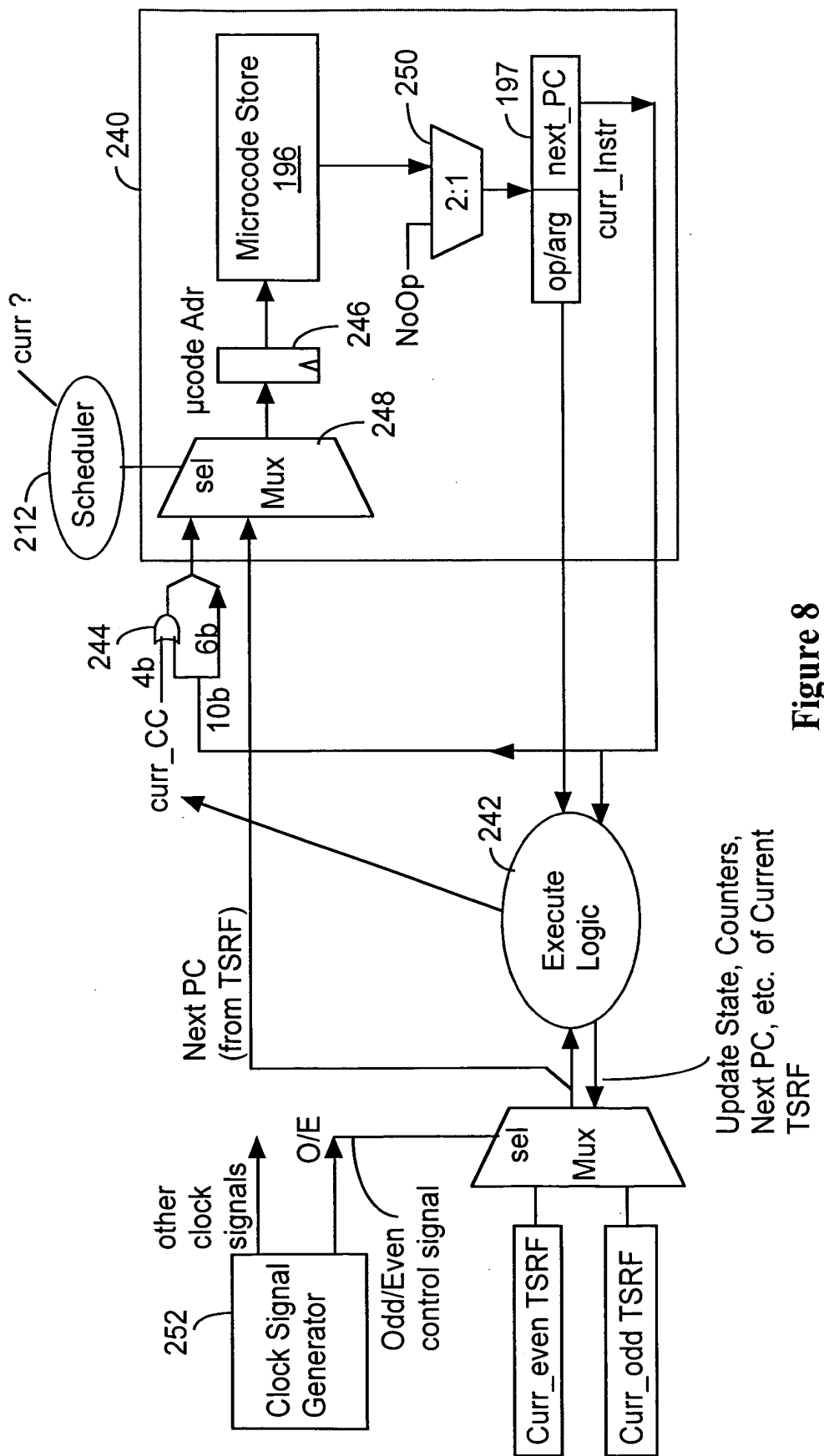
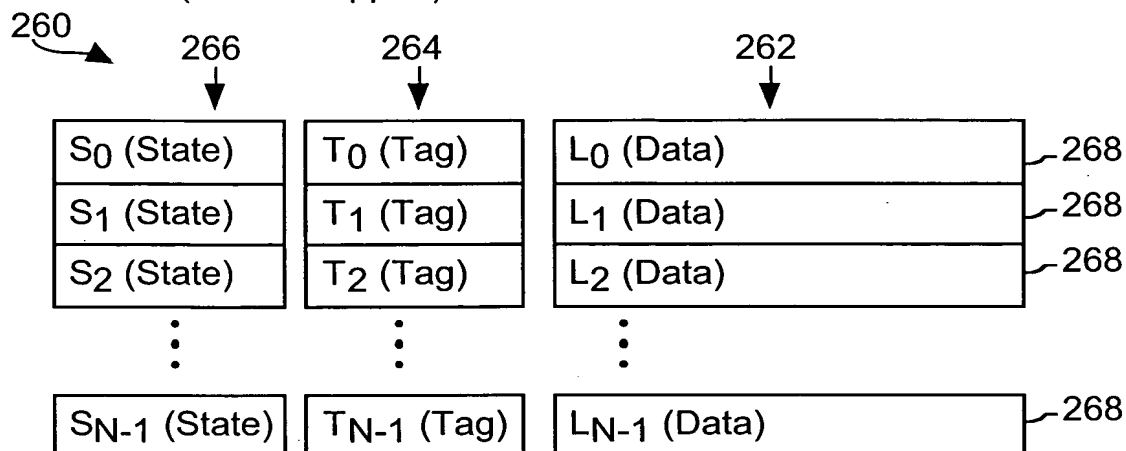


Figure 8

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L1 Cache (Direct Mapped)



For Direct Mapped L1 Cache:

Address Bit Groups = ABCD

Line Address = ABC

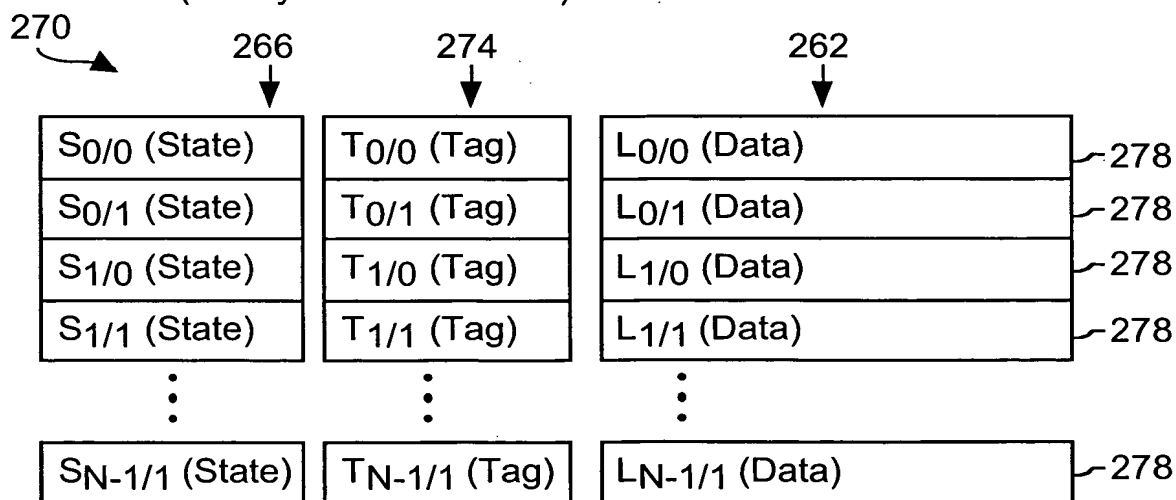
Tag = A

Cache Index for Line = BC

State = invalid, shared, clean, exclusive, dirty, exclusive

Figure 9A

L1 Cache (2 Way Set Associative)



For 2-way Set Associative Cache:

Address Bit Groups = ABCD

Line Address = ABC

Tag = AB

Cache Index for Line = C

Figure 9B

FIG. 9C

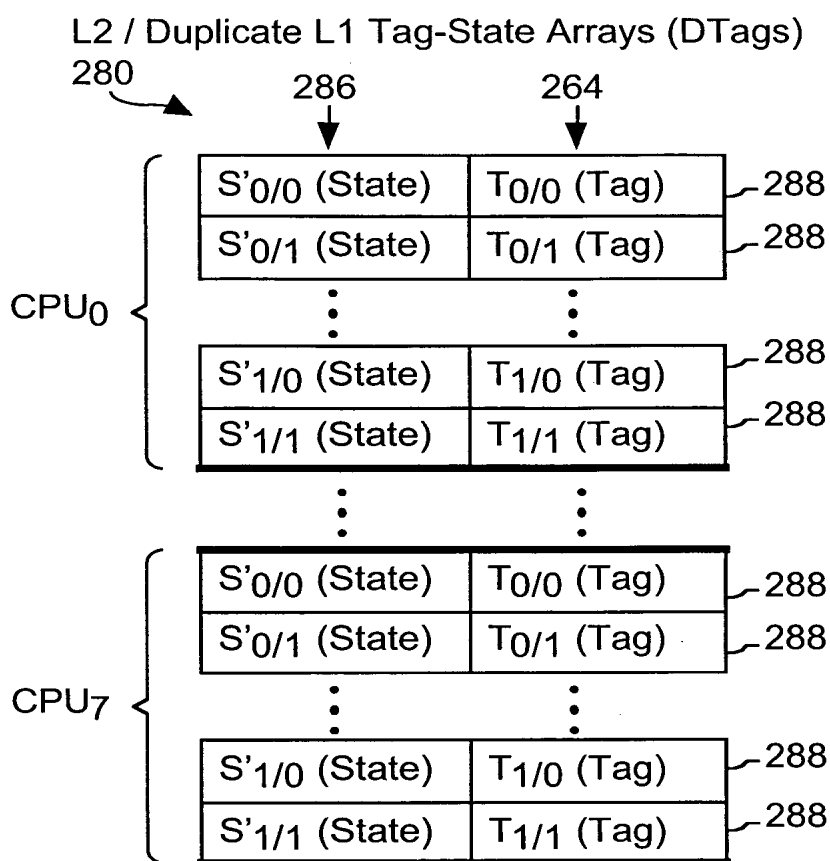


Figure 10A

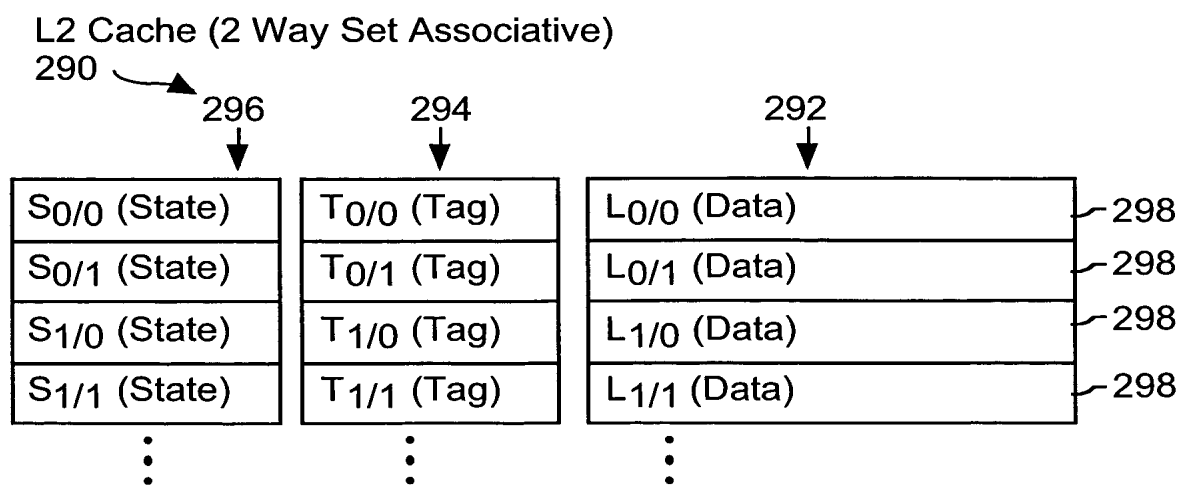


Figure 10B

10042035.010702

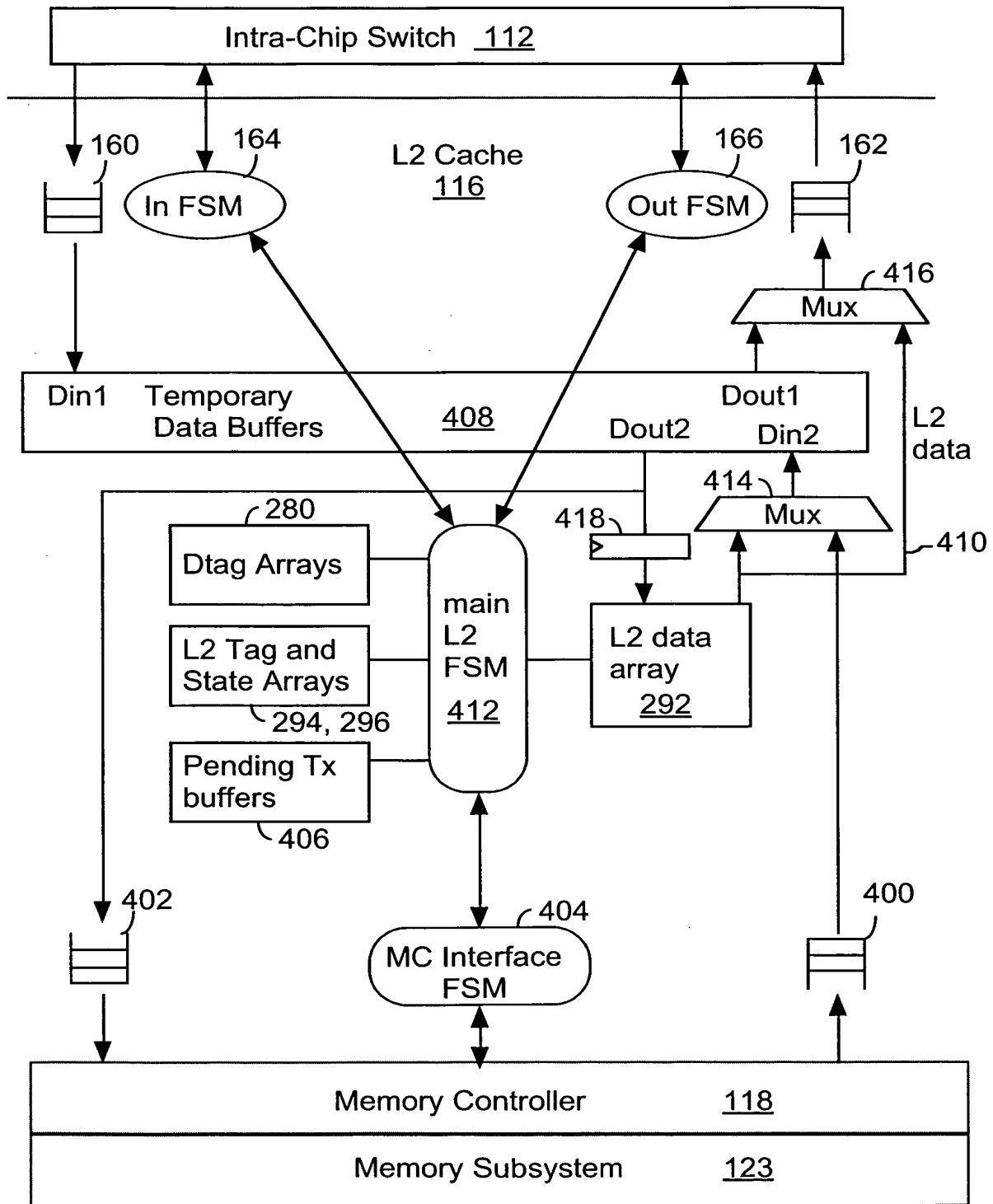


FIG. 10C

Requesting node 102, 104 Home node 102, 104 Owner node 102, 104 Sharer node(s) 102, 104

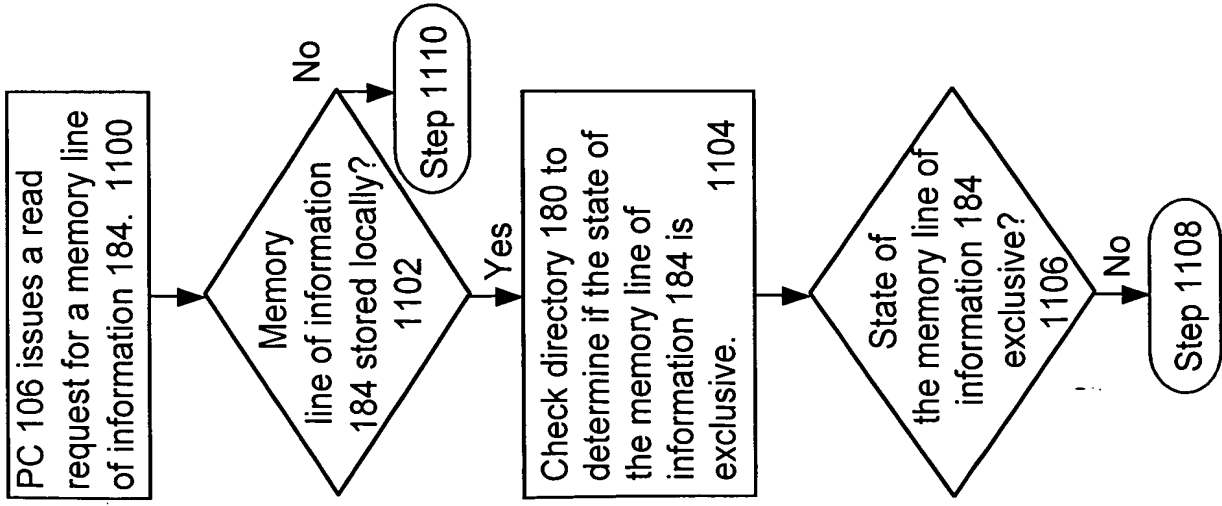


Figure 11A

Requesting node 102, 104 Home node 102, 104 Owner node 102, 104 Sharer node(s) 102, 104

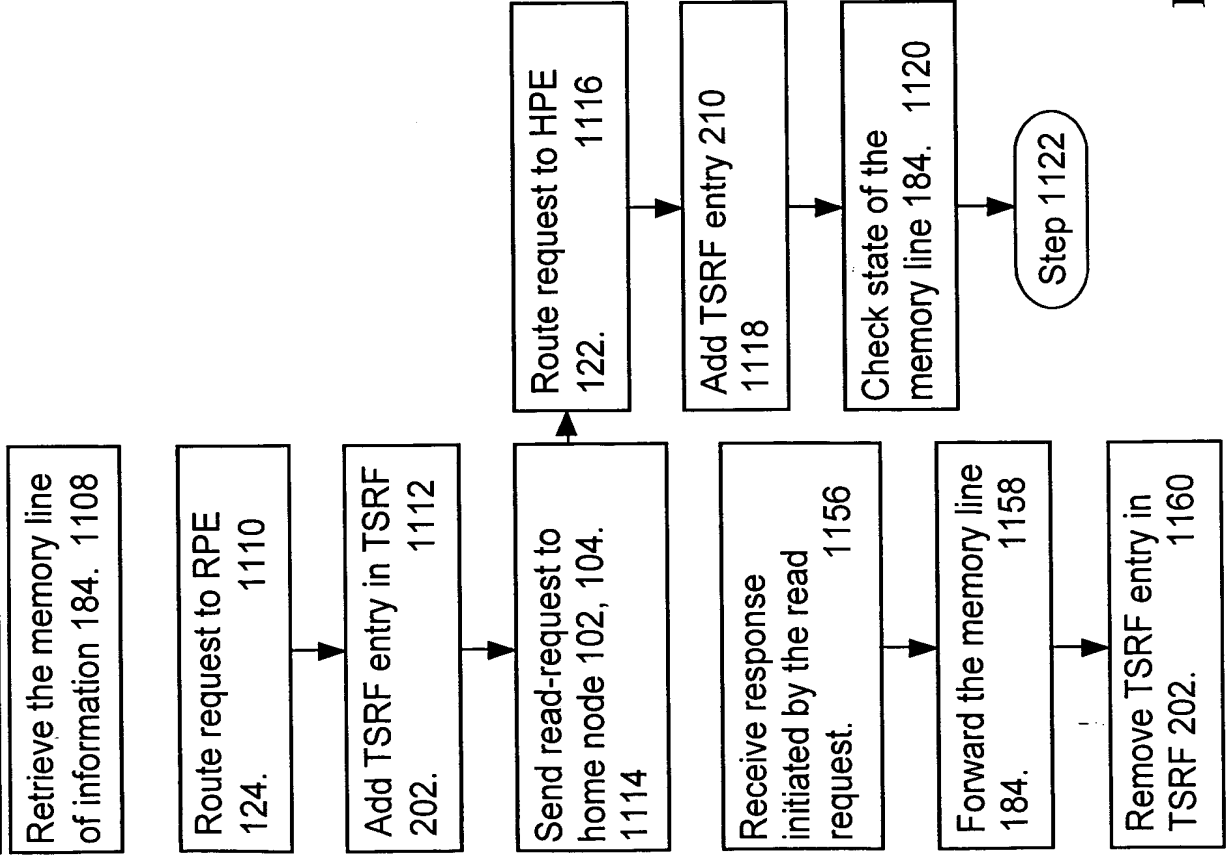


Figure 11B

Requesting node 102, 104 Home node 102, 104 Owner node 102, 104 Sharer node(s) 102, 104

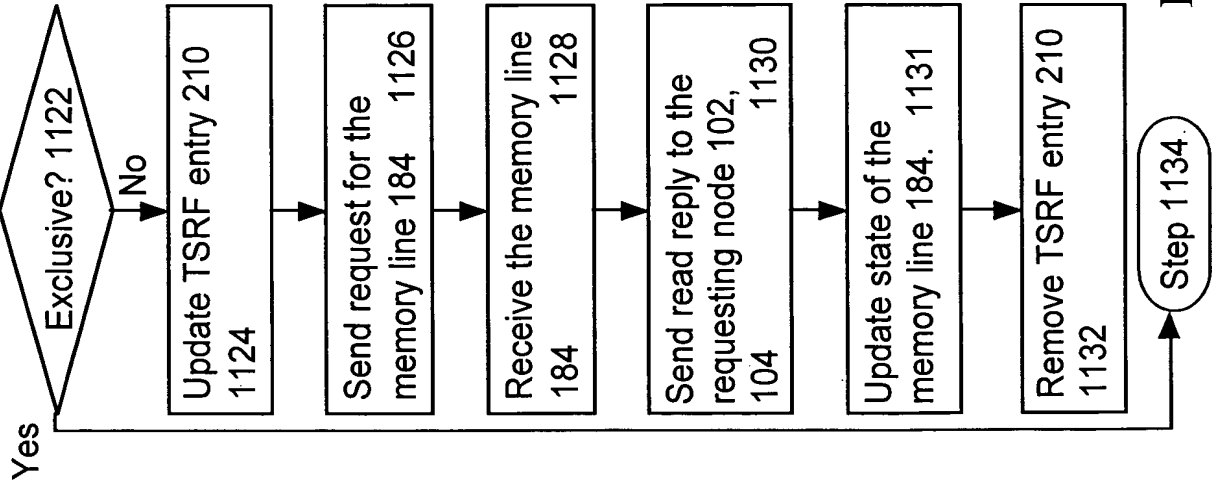


Figure 11C

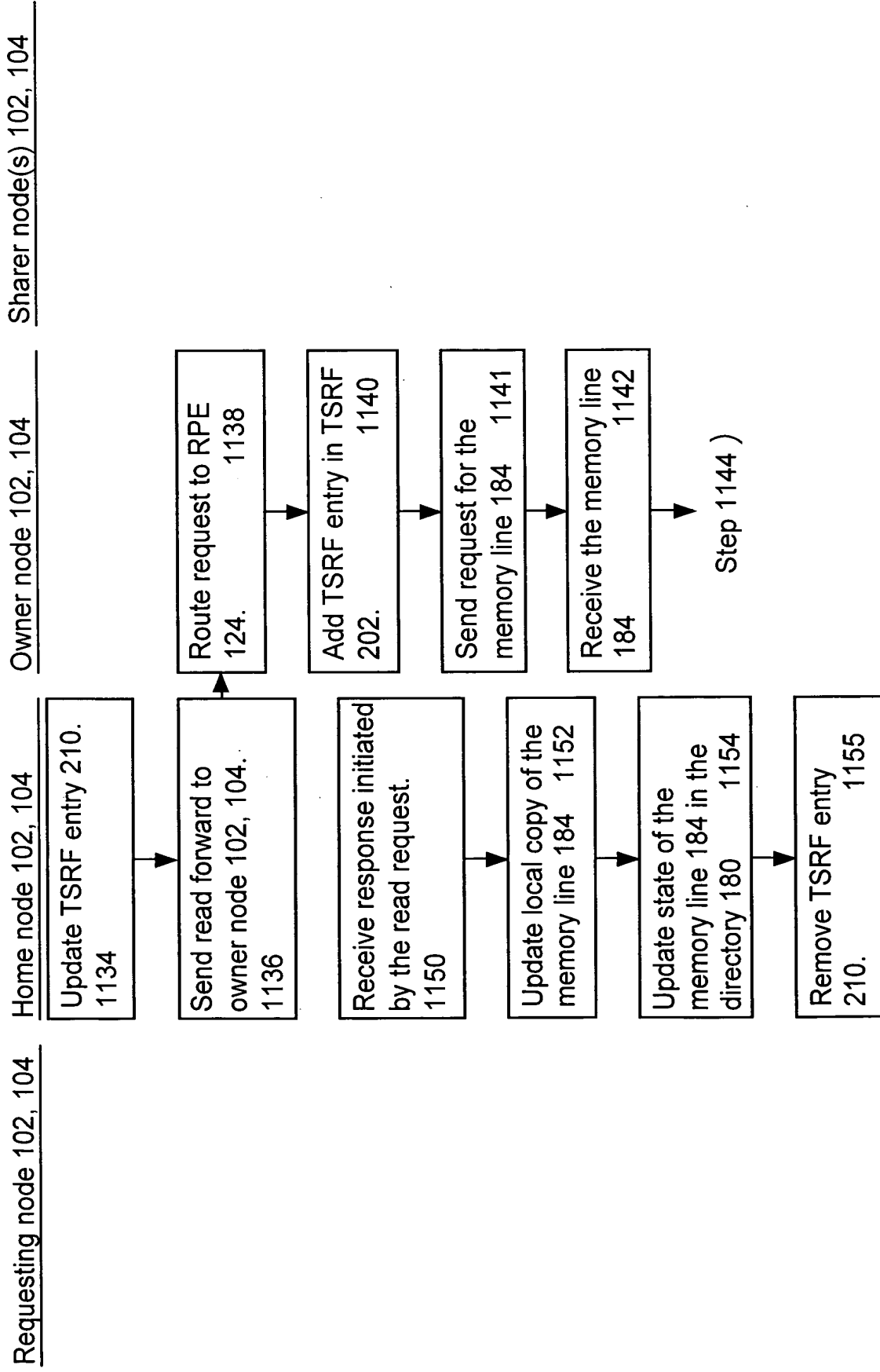


Figure 11D

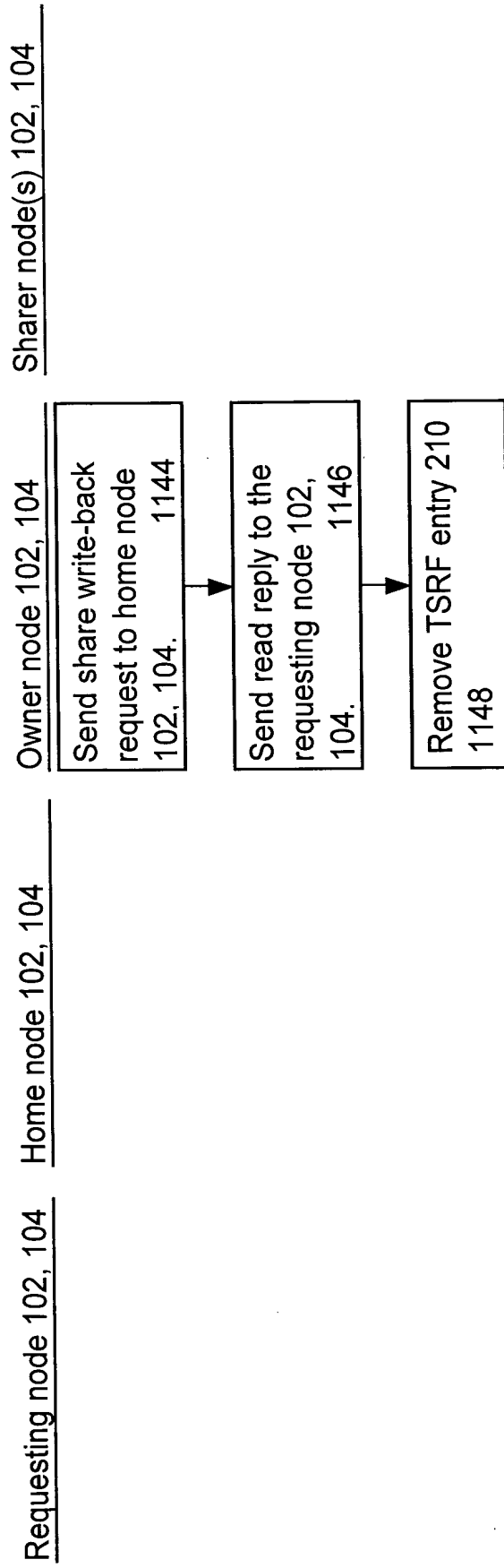


Figure 11E

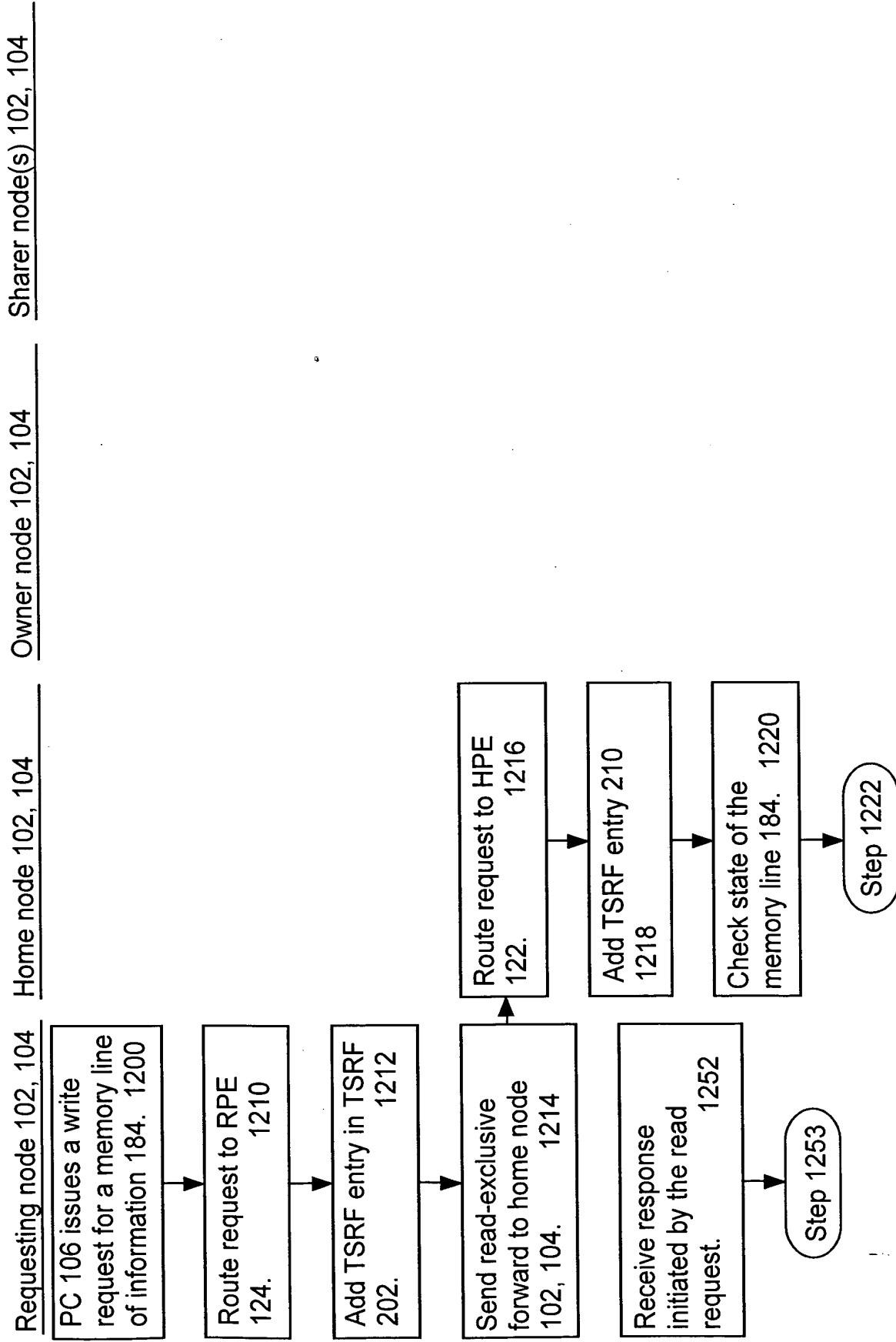


Figure 12A

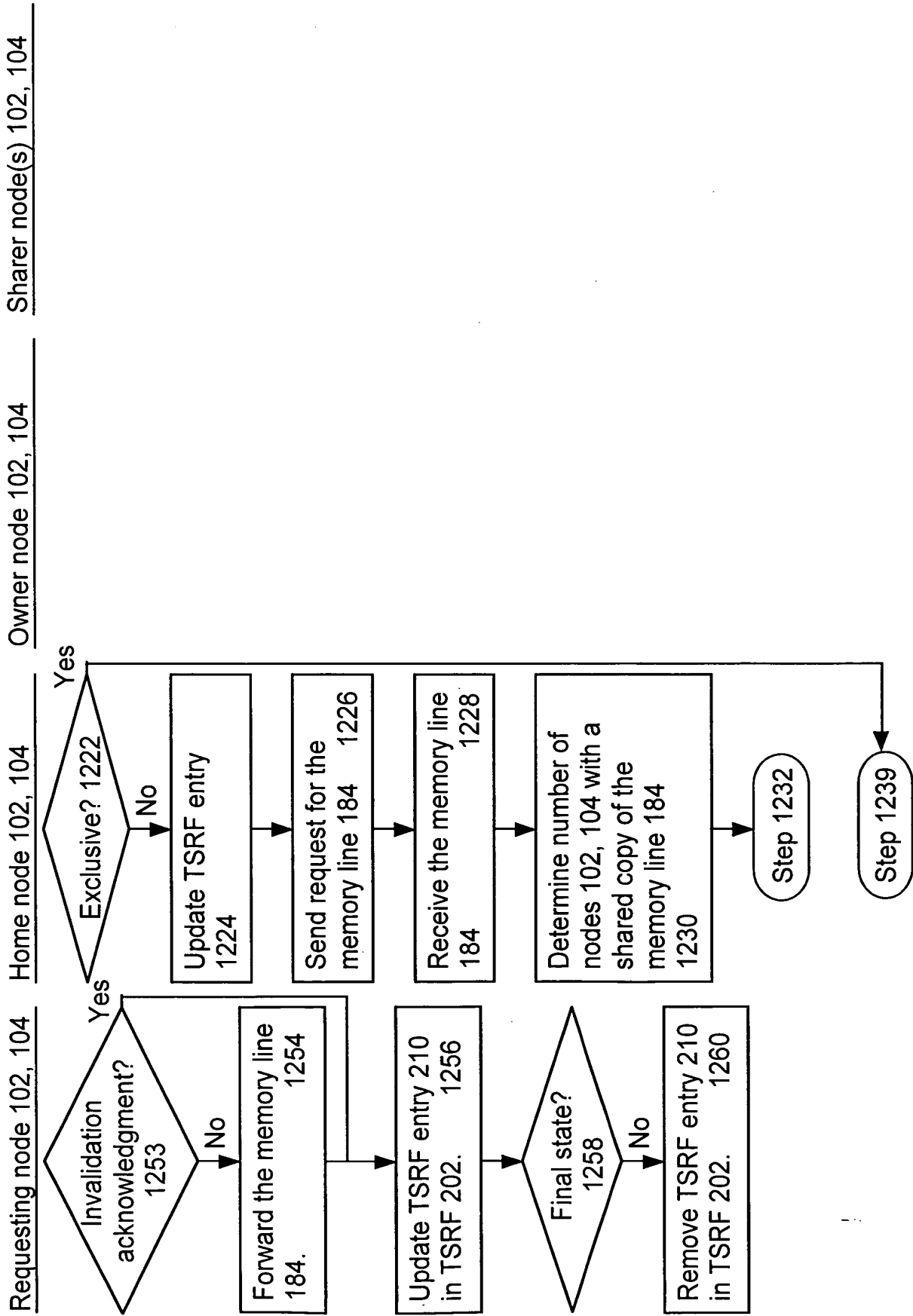


Figure 12B

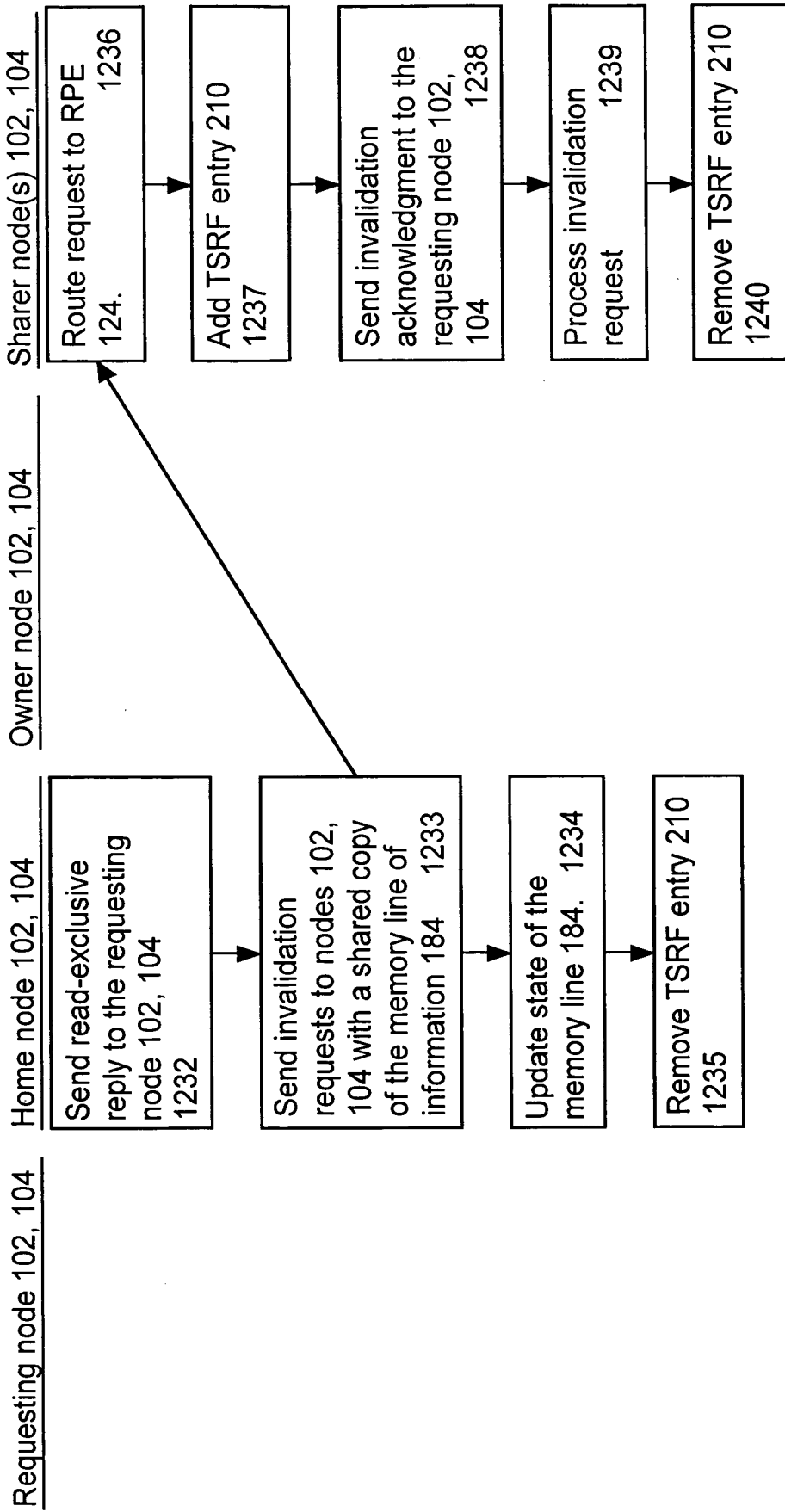


Figure 12C

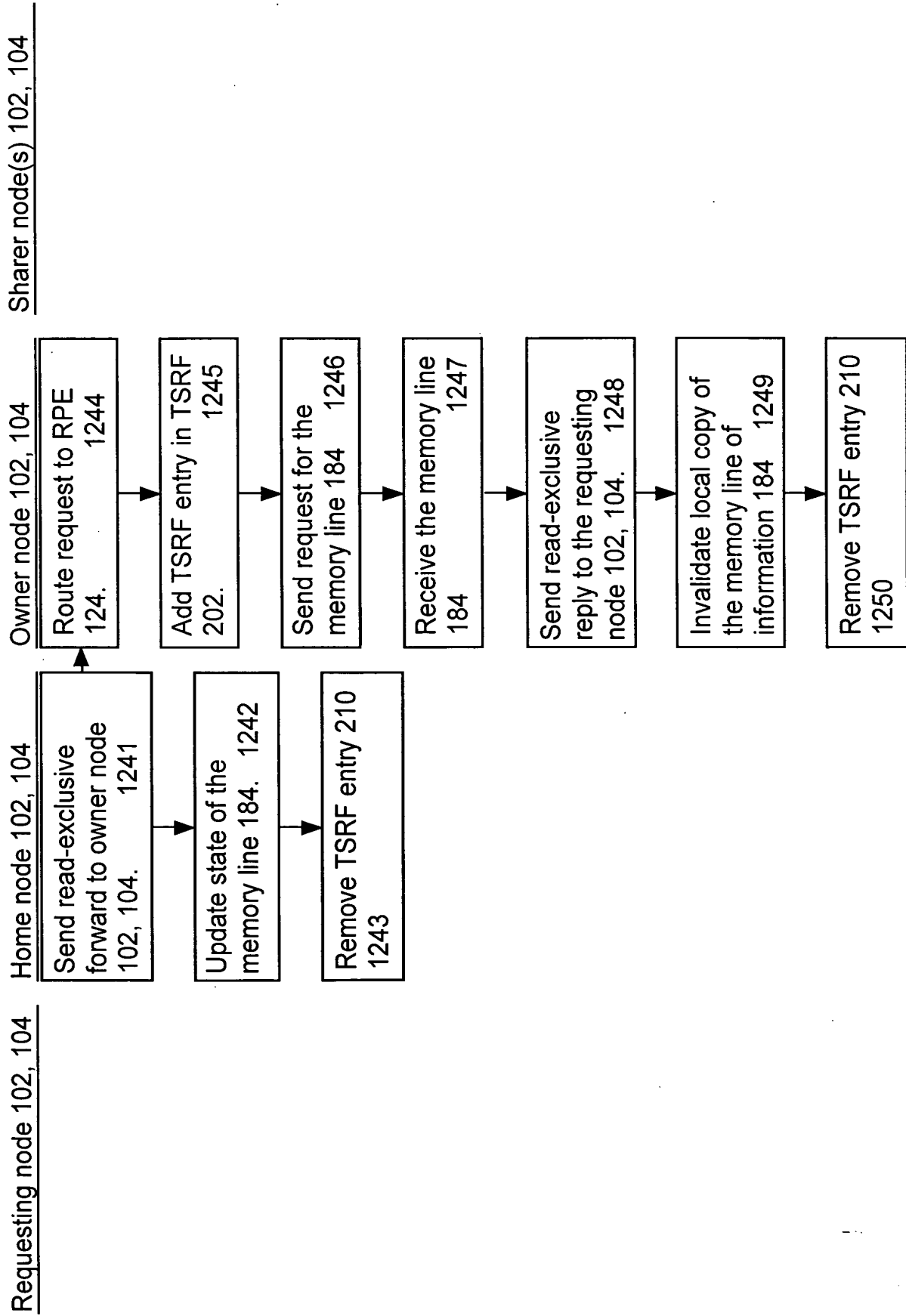


Figure 12D

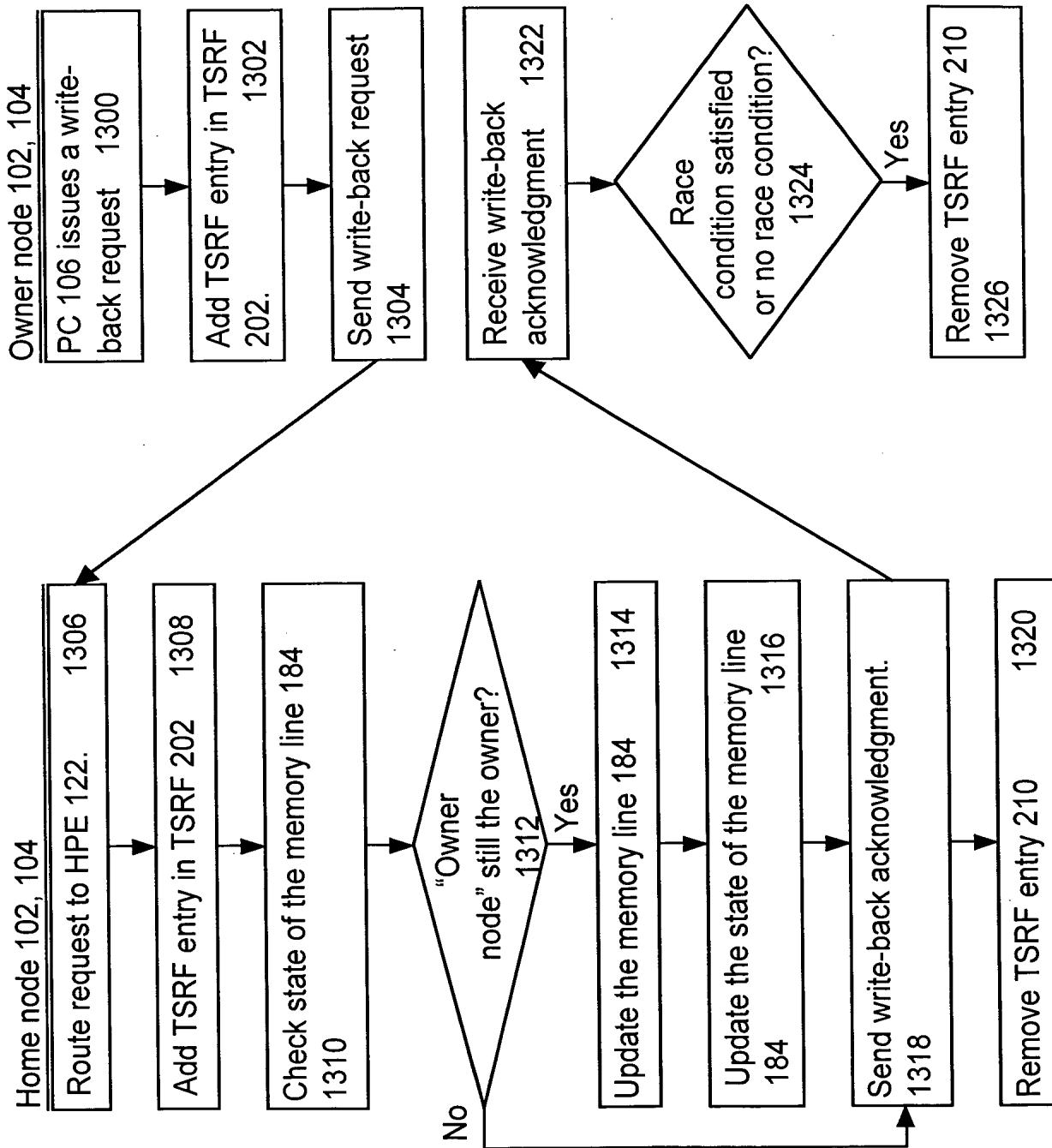


Figure 13

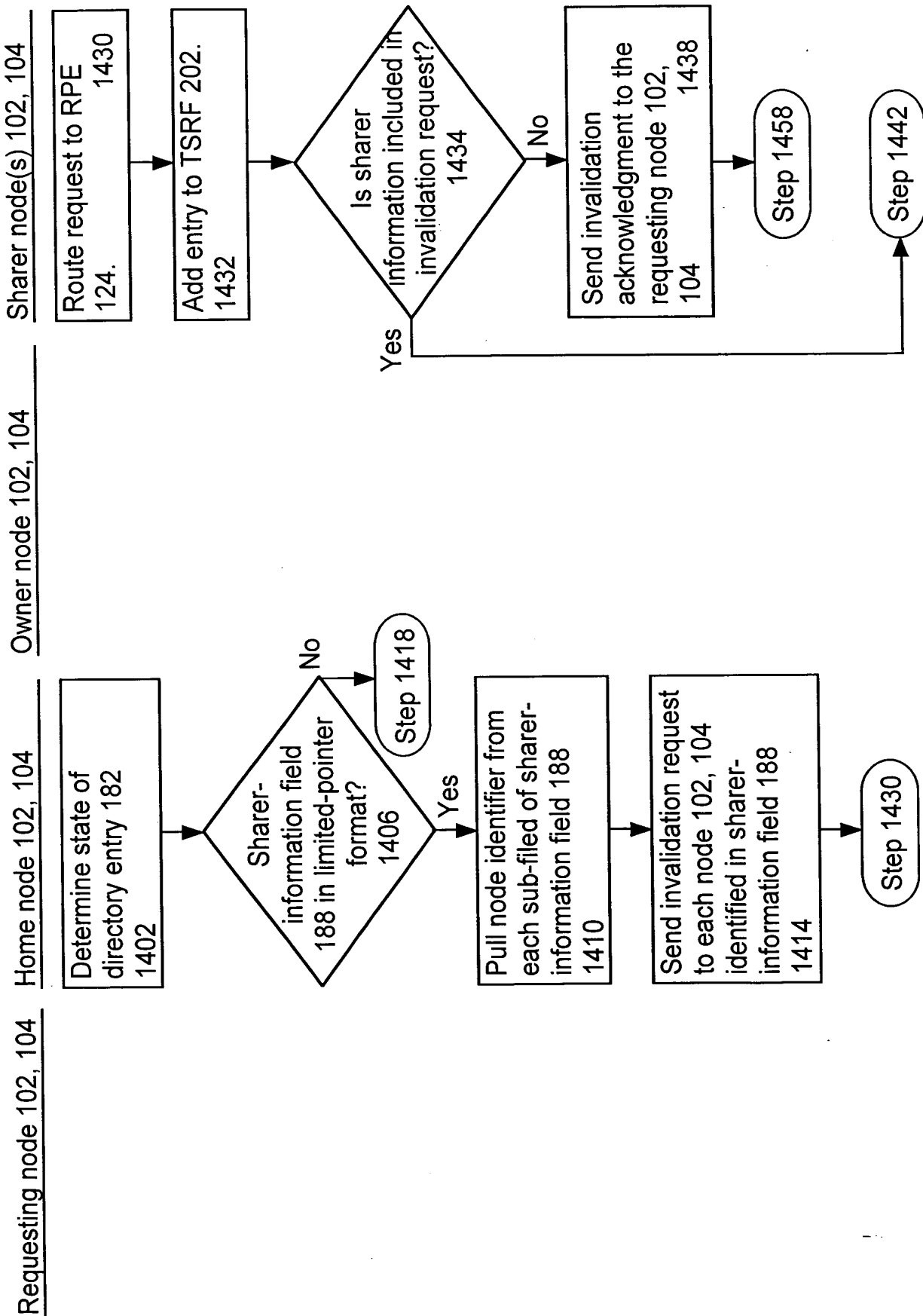


Figure 14A

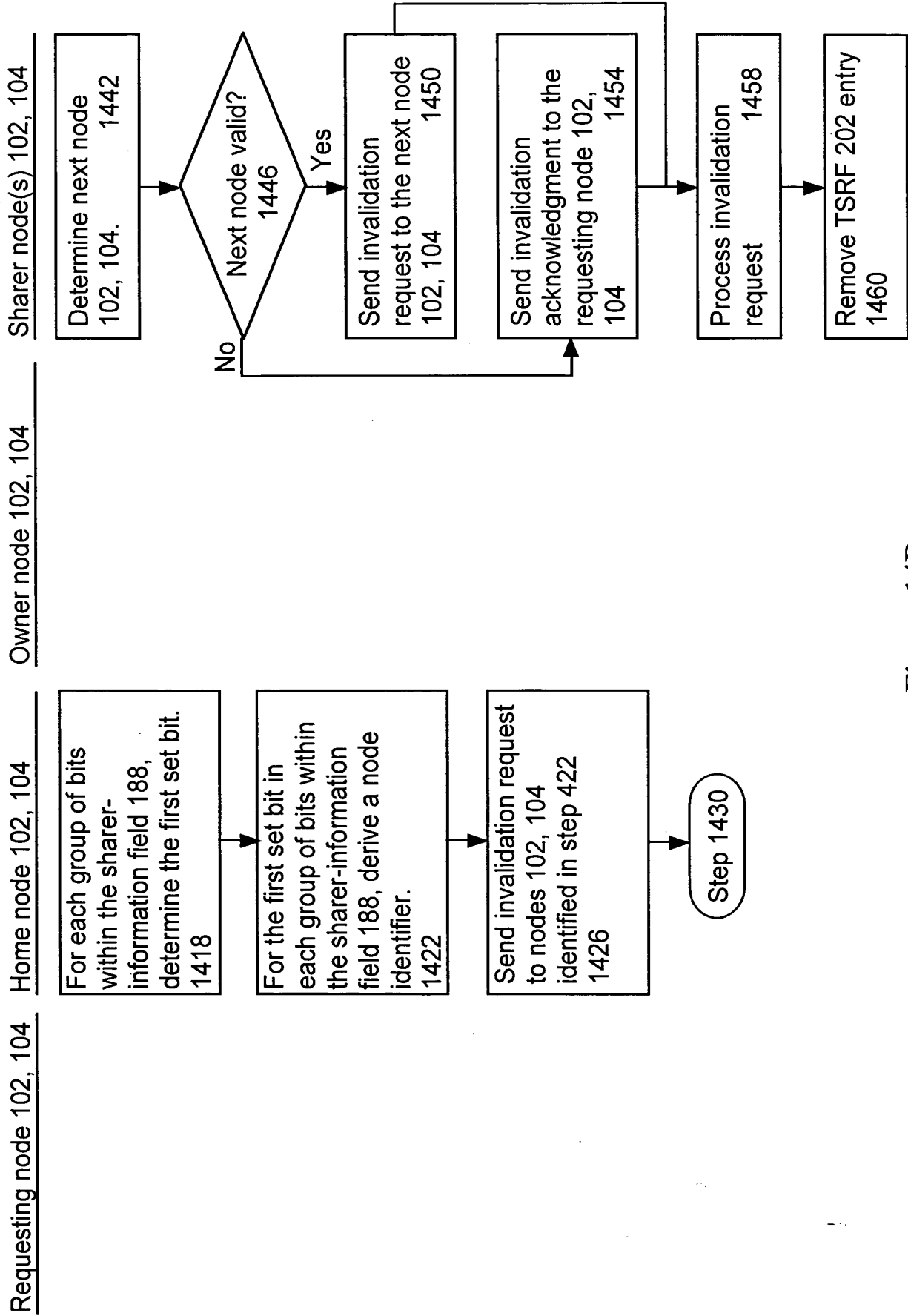


Figure 14B

204010" 59024001 10042035 .010702

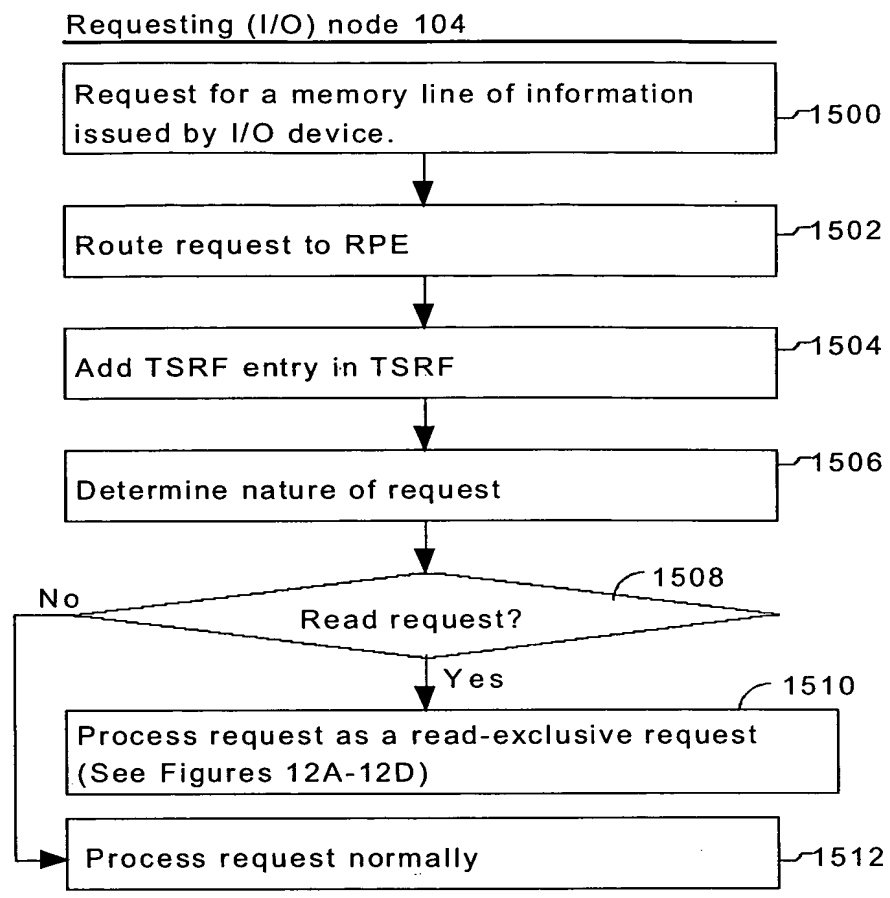


Figure 15

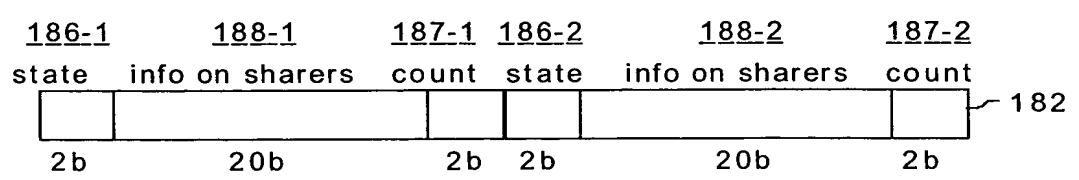
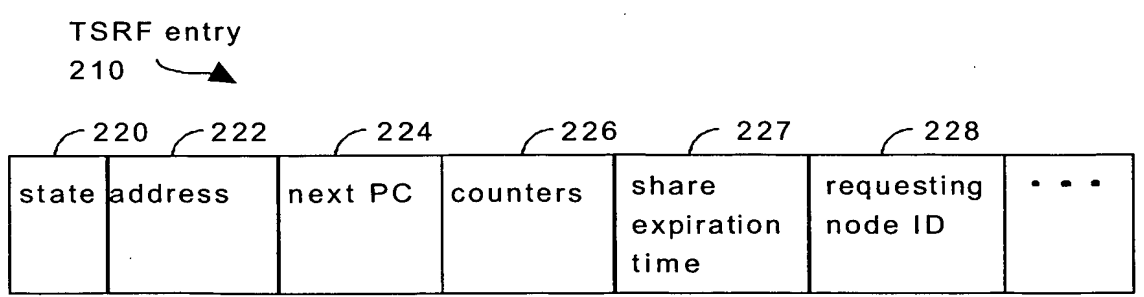


Figure 17



TSRF entry format

Figure 18

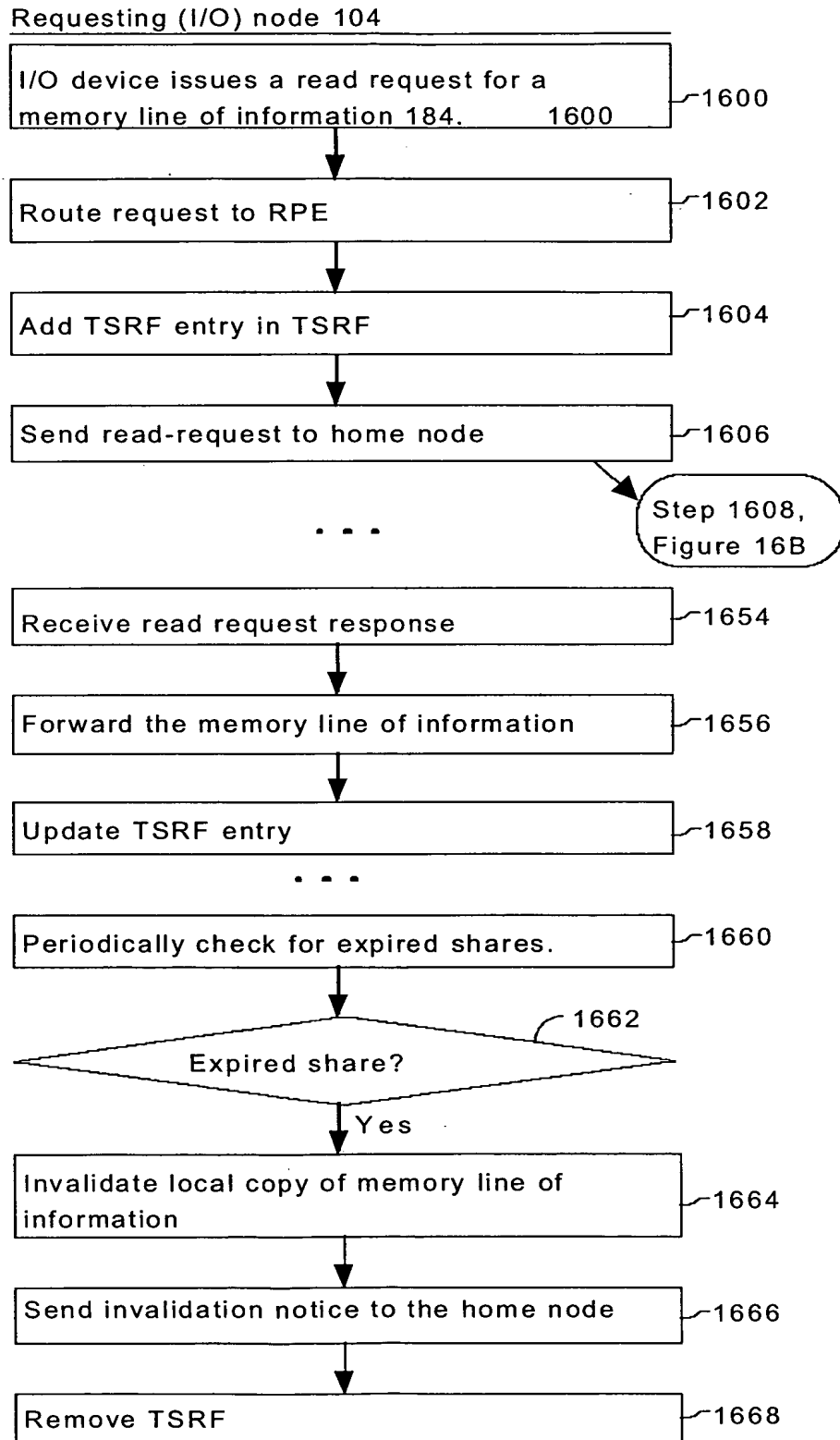


Figure 16A

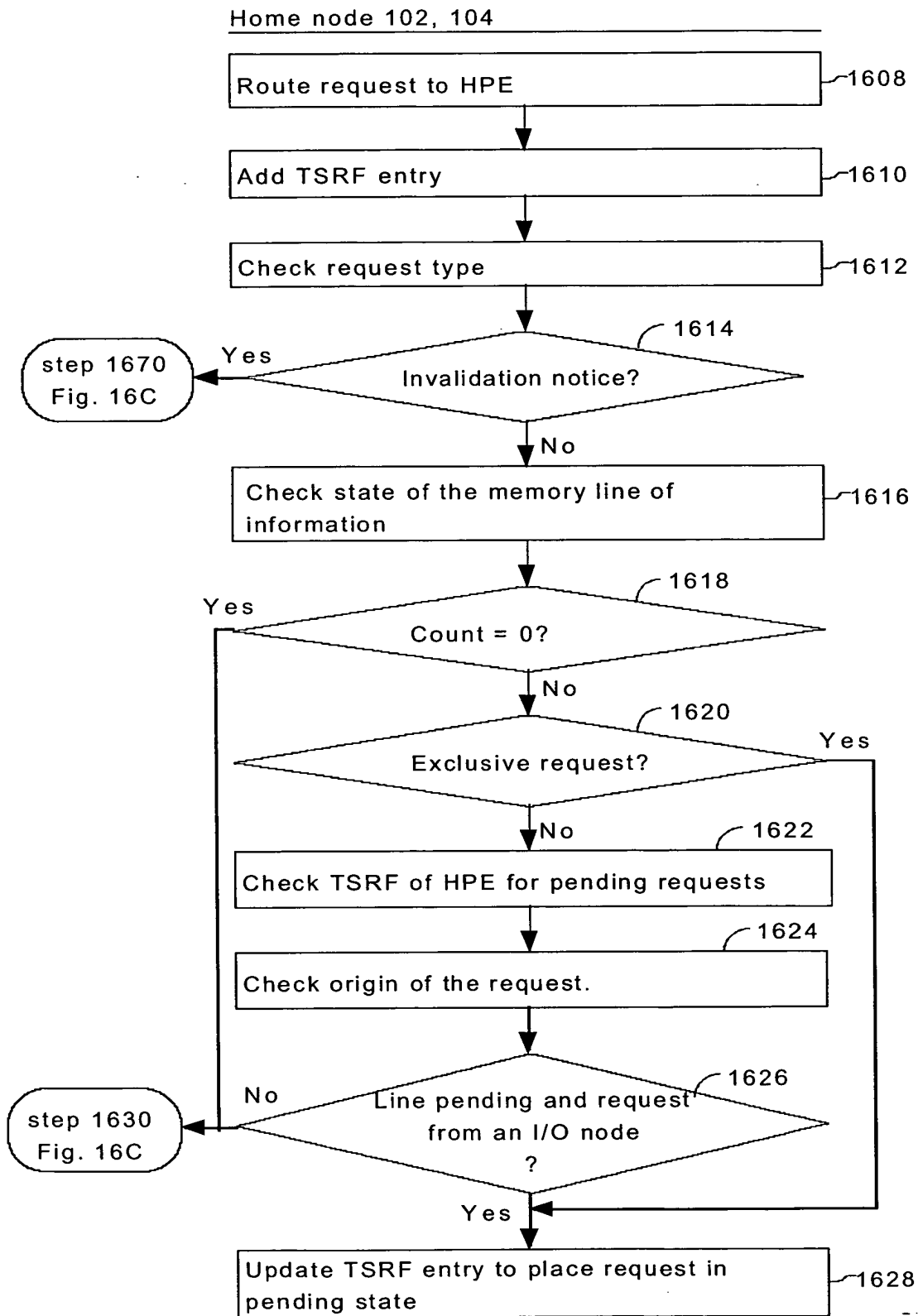


Figure 16B

204010" 5E02400T

Home node 102, 104

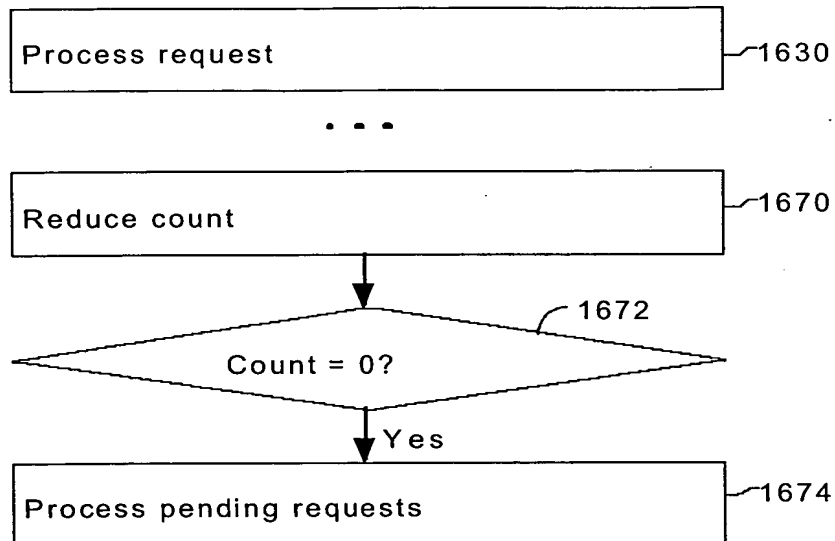


Figure 16C